

I Claim:

1) An apparatus for forming radius bends into a substantially rectangular metal frame comprising:

5 a) an elongated mandrel having an inverted J-shaped die formed at one end;

b) an elongated handle having one end perpendicularly connected to one end oppositely spaced from said inverted J-shaped die of said mandrel;

10 c) an elongated radius bend jig adjacently spaced from said elongated mandrel's inverted J-shaped die end, said elongated radius bend jig having one end pivotally connected to said elongated mandrel;

15 d) said elongated radius bend jig having operationally disposed therein the substantially rectangular metal frame; and

e) said inverted J-shaped die mounted mandrel being selectively actuated via said elongated handle urges said inverted J-shaped die into the elongated radius bend jig forming the radius bend into the metal frame.

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2) An apparatus for forming radius bends as recited in Claim 1 further comprising:

f) an elongated radius bend stop mechanism mountably disposed to said elongated handle;

25 g) said elongated radius bend stop mechanism having one end engaging said elongated radius bend jig;

h) said elongated radius bend stop mechanism's other end forming a crank to set the depth of said inverted J-shaped die forming the radius bend into the metal frame; and

5 i) a locking mechanism disposed about said elongated radius bend stop mechanism, said locking mechanism engaging said elongated handle thereby locking said locking mechanism to said elongated handle.

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3) An apparatus for forming radius bends as recited in Claim 2 wherein said radius bend stop mechanism comprises:

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a) an elongated threaded rod having one end inserted through a mating threaded portion of said elongated handle;

b) said elongated threaded rod's other end formed into an L-shaped crank;

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c) a threaded locking nut with an outwardly extending arm connected thereto, said threaded locking nut mating to the threads of said elongated threaded rod;

d) said threaded locking nut engaging said elongated handle locking said threaded locking nut in-place.

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4) An apparatus for forming radius bends as recited in Claim 1 wherein said elongated mandrel comprises:

a) a substantially rectangular member having two short sides and two long sides;

- b) said substantially rectangular member having said inverted J-shaped die formed along one short side; and
- c) said substantially rectangular member's other short side having said elongated handle adjacently spaced and connectively disposed thereto.

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- 5) An apparatus for forming radius bends as recited in Claim 1 wherein said elongated radius bend jig comprises:

- a) a pair of back to back mounted substantially rectangular L-shaped members, said L-shaped members having a top portion;
- b) said L-shaped members having disposed therebetween said elongated mandrel's inverted J-shaped die end;
- c) said L-shaped members being pivotally connected to said elongated mandrel; and
- d) a plurality of slots disposed along said L-shaped member's top portion, said plurality of slots being aligned with and spaced from said elongated mandrel.

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- 6) A method of forming radius bends into a substantially rectangular metal frame comprising the steps of:

- a) providing an elongated mandrel having an inverted J-shaped die formed at one end; said elongated mandrel pivotally mounted to an elongated radius bend jig, said elongated radius bend jig having a plurality of slots disposed therein;

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- b) inserting the rectangular metal frame in said slots;

- c) actuating said elongated mandrel; and
- d) forming the radius bend in the rectangular metal frame via said actuated elongated mandrel.

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- 7) A method of forming radius bends as recited in Claim 6 further comprising the steps of:

e) removing said radius bent metal frame from said elongated radius bend jig;

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f) rotating said radius bent metal frame end to end;

g) inserting said rotated radius bent metal frame in said slots;

h) actuating said elongated mandrel; and

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i) forming a selected bend in said rotated radius bent metal frame via said actuated elongated mandrel.

- 8) A method of forming radius bends as recited in Claim 7 wherein said step of forming a selected bend comprises the step of selecting a bend from a group of geometric shapes consisting of an S-shape, circular shape, arcuate shape, oval shape and rectangular shape.

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